

*Serial No. 10/696,442
Amendment dated September 7, 2005
Reply to final Office Action of June 8, 2005*

REMARKS

With this paper, Applicants have amended claims 1-4, 12-14, 17, and 26, canceled claim 6. Claims 1-5, 7, 9-10 and 12-26 are pending. Reconsideration of this application, as amended, is requested.

Double Patenting

Claims 1-5, 7, 9, 12-14, 17-20, 25 and 26 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5-8, 12, 14, 15, 17 and 21 of U.S. Patent No. 6,638,339 in view of U.S. Patent No. 5,626,820 (Kinkead et al.).

Claims 1-5, 7, 9 and 12-26 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6, 10, 11, 13 and 14 of U.S. Patent 6,432,177 in view of U.S. Patent No. 5,626,820 (Kinkead et al.).

Applicants will submit a Terminal Disclaimer, if necessary, when the claims are in final form.

102 Rejections

Claims 12, 13, 15, 16 and 26 were rejected under 35 U.S.C. 102(b) as being anticipated by Kinkead et al. (U.S. Patent No. 5,626,820). Applicants disagree.

As provided above, independent claim 12 has been amended to more precisely define the filter assembly recited. Particularly, the assembly has a cylindrical particulate filter and a chemical filter comprising a first carbon adsorbent material and a second carbon adsorbent material, with the particulate filter positioned downstream of the adsorbent material.

Kinkead et al. teaches having a HEPA filter 24 and gas-phase filter 14, with a blower 18 positioned therebetween, for cleansing air for a clean-room environment (FIG. 3). There is no discussion of having two carbon adsorbent materials in the filter assembly. In Example 6, which refers to FIG. 1C, Kinkead et al. describes having an activated charcoal filter 104 impregnated with zinc chloride and potassium iodide for photolithograph station 102, and an activated charcoal filter 110 impregnated with potassium hydroxide and potassium carbonate for etch processing station 108. The two activated charcoal beds are not found in a single filter, but are

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for two separate filters, filters 104 and 110, which are installed for different systems. Kinkead et al. does not provide two different adsorbent materials in the same filter. Further, there is no discussion of having the particulate filter be cylindrical. Additionally, there is no teaching that the air is used for a fuel cell.

At least for these reasons, Kinkead et al. does not anticipate the claims, as amended, and withdrawal of the rejection is requested.

103 Rejections

Claims 1-3, 7, 9, 12, 17-23, 25 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP '177 in view of Kinkead et al. Claims 4-6, 14 and 24 were rejected as unpatentable over JP '177 in view of Kinkead et al. and further in view of Berger et al., U.S. Patent No. 3,217,715. Claim 10 was rejected as unpatentable over JP '177 in view of Kinkead et al. and further in view of Nakanishi et al., U.S. Patent No. 4,595,642. Applicants disagree with each of these rejections.

Claim 1 has been amended to recite that the filter element has two activated carbon adsorbent materials and a cylindrical particulate filter positioned downstream of the adsorbent materials. Claims 2-5, 7, 9-10 and 25 depend, either directly or indirectly from claim 1.

Claim 12 has been amended to recite a fuel cell system comprising a cylindrical particulate filter of cellulose media and fine fiber and a chemical filter having two different carbon adsorbent materials, with the particulate filter positioned downstream of the chemical filter. Claims 13, 14 and 26 depend from claim 12.

Claim 17 has been amended to recite that the filter includes a first mass of carbon adsorbent material held together by polymeric material and a second mass of carbon adsorbent material different than the first held together by polymeric material. Claims 18-19 depend from claim 17.

Claim 20 also recited having two carbon adsorbent materials and a cylindrical particulate filter positioned downstream of the adsorbent materials. Claims 21-23 depend from claim 20.

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Each of the rejections is based on JP 60-054177. JP '177 teaches providing an air cleaning filter 20 having activated carbon sandwiched between electret filters (i.e., particulate filters) at an air inlet 4 for a fuel cell 1. There is no disclosure of having two different types of carbon adsorbent materials for the filtration assembly on the fuel cell, nor of being held together by polymeric material. Additionally, there is no teaching of having the particulate filter be cylindrical and/or comprising cellulose media with fine fiber.

The Office Action attempts to turn to Kinhead for the teaching of two different adsorbent materials in the same filter. As discussed above, Kinhead et al. does not disclose this. Rather, Kinhead et al. describes having a first impregnated activated charcoal filter 104 for photolithograph station 102, and a second impregnated activated charcoal filter 110 for etch processing station 108. The two activated charcoal beds are not found in a single filter, but are for two separate filters, filters 104 and 110, which are installed for different systems. Kinhead et al. also does not describe having carbon adsorbent mass held together by polymeric material nor having the material extruded. Nor does Kinhead et al. describe having a cylindrical particulate filter or a particulate filter being cellulose media with fine fiber.

The Office Action then attempts to turn to a third reference, Berger et al. '175, for the teaching of adsorbent material that is combined with polymeric binder and extruded. Berger et al., however, does not remedy the lackings of JP '177 and Kinhead et al., that of two different adsorbent materials, of a cylindrical particulate filter downstream of the adsorbent material, and of a cylindrical particulate filter comprising cellulose and fine fiber.

For claim 10, the Office Action turns to Nakanishi et al. for the teaching of a hydrophobic later. Nakanishi et al. does not remedy the lackings of JP '177 and Kinhead et al..

Applicants contend that at least for these reasons, JP 60-054177 combined with Kinhead et al., Berger et al., Nakanishi et al. or any combination thereof, does not make obvious the claims, as amended, and withdrawal of the rejections is requested.

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SUMMARY

In view of the above amendments and remarks, Applicant respectfully requests a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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